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## NUCLEAR REGULATORY COMMISSION

[NRC-2015-0107]

### Net Positive Suction Head for Emergency Core Cooling and Containment

#### Heat Removal System Pumps

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Regulatory guide; withdrawal.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is withdrawing regulatory guide (RG), RG 1.1 "Net Positive Suction Head for Emergency Core Cooling and Containment Heat Removal System Pumps." The guide is being withdrawn because the same guidance is provided with more detail by RG 1.82, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident."

**DATES:** Effective [INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*], the NRC withdraws RG 1.1.

**ADDRESSES:** Please refer to Docket ID **NRC-2015-0107** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2015-0107**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual(s) listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**  
You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that a document is referenced.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Ahsan Sallman, Office of Nuclear Reactor Regulation, telephone: 301-415-2380 e-mail: [Ahsan.Sallman@nrc.gov](mailto:Ahsan.Sallman@nrc.gov), and Richard Jervey, Office of Nuclear Regulatory Research, telephone: 301-251-7404, e-mail: [Richard.Jervey@nrc.gov](mailto:Richard.Jervey@nrc.gov). Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

## **SUPPLEMENTARY INFORMATION:**

### **I. Introduction.**

The NRC is withdrawing RG 1.1 because its guidance has been incorporated into RG 1.82, “Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident.”

### **II. Further Information.**

The withdrawal of RG 1.1 does not alter any prior or existing licensing commitments based on its use. Although a regulatory guide is withdrawn, its use in existing licenses is still valid, and changes to the licenses can be accomplished using other regulatory products. Withdrawal of an RG means that the guide no longer provides useful information or has been superseded by other guidance, technological innovations, congressional actions, or other events. A withdrawn guide should not be used for future NRC licensing activities.

This RG 1.1 provides guidance on meeting the requirements in part 50, appendix A of Title 10 of the *Code of Federal Regulations* (10 CFR), General Design Criteria (GDC), GDC 35, “Emergency Core Cooling,” and GDC 38, “Containment Heat Removal.” The GDC 35 and 38 require that the emergency cooling and containment heat removal systems be capable of accomplishing their required safety functions assuming loss of offsite power and single failure. The ability to accomplish these safety functions reliably depends in part on the proper performance of system pumps which, in turn, depends on the conditions under which the pumps must operate. One of these conditions is suction pressure and the closely related characteristic net positive suction head. The information in RG 1.82 has been updated from extensive reviews of the emergency core cooling system recirculation systems which have reduced the

uncertainties contained in modeling studies of these systems. The NRC staff has determined that the RG 1.82 guidance is more thorough and provides the needed detail to allow consideration of nuances in design which were not contemplated when RG 1.1 was written in 1970.

The guidance from RG 1.1 pertaining to suction pressure and net positive suction head has been incorporated into RG 1.82, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident," which includes detailed guidance related to emergency cooling systems. The RG 1.1 is superseded by RG 1.82.

Dated at Rockville, Maryland, this 23<sup>rd</sup> day of April, 2015.

For the Nuclear Regulatory Commission.

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